

KAMENSHCHIKOV, V.; RASTORGUYEV, I., inzh.; POPOV, P., inzh.; FIL'KIN, I.

Exchange of experience. Avt.transp. 43 no.3:48-49 Mr '65.

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KAMENSHCHIKOV, V., inzh.; KONSTANTINOV, N., inzh.

Wrench for unscrewing wheel nuts. Avt.transp. 40 no.2:50 f
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(Wrenches)

KAMENSHCHIKOV, V., inzh.; KONSTANTINOV, N., inzh.

Wrenches for unscrewing broken nuts. Avt.transp. 40 no.5:53
My '62. (MIRA 15:5)

(Wrenches)

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TITLE: Results of clinical and physiological investigations of the crew of the first multiman Voskhod spacecraft [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966]
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TOPIC TAGS: space medicine, space physiology, weightlessness, bodily fatigue, stress reaction, combined stress, cardiovascular system, central nervous system, manned spaceflight/Voskhod-1

ABSTRACT: The inclusion of a physician in the crew of the Voskhod-1 made it possible to increase medical investigations of the crew members during flight and to compare them with results of preflight and postflight examinations. The scope of the physiological examinations was selected in order to obtain a more complete evaluation of the functional condition of the cardiovascular and central nervous systems, and the function of

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external respiration of the cosmonauts. Physical exercises and ortho-static tests were included to detect earlier signs of physiological shifts.

Examinations were carried out before and after training in the ship, where certain conditions of flight were simulated, and also two weeks before flight. Postflight examination was begun fifteen minutes after landing and was continued for the first four days after the flight and also two weeks later.

After landing, the cosmonauts were active, looked somewhat excited, and complained of general fatigue. They were found to have hyperemia of the mucosa of the upper respiratory tract and conjunctivitis.

Komarov's weight dropped by 2.6%, Feoktistov's weight dropped by 4%, and Yegorov's by 3.9%. Weight loss was determined by Zhdanov to be due to water and fat loss. Neurological examination revealed a light swaying in the Romberg position, a tremor of the fingers, and increased perspiration. In addition, Yegorov showed a contraction of the retinal arteries. Disruption of vision and vestibular difficulties were not noted. Changes in EEG indicated an increase in inhibitory processes in the cortex of the brain. A diminution in work capacity was established by

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psychological experiments (increase in the number of mistakes, increase in latent periods). D

Indices of cardiovascular activity during rest did not exceed wide norms. However, an increase in pulse frequency was noted (Komarov up to 96, Feoktistov up to 100, and Yegorov up to 94 beats/min), as well as moderate drop in arterial pulse pressure at the expense of an increase in diastolic pressure. All three cosmonauts, when subjected to exercise, showed a significant increase in the pulse rate and inertia in the stroke volume. Feoktistov and Yegorov showed a significant diminution in the heart stroke volume and minute circulation of the blood during the passive orthostatic test. This could indicate a disruption of the venous inflow to the heart.

Postflight blood examinations indicated neutrophilic leukocytosis and eosinopenia. Urine was found to contain significant quantities of salts, chiefly urates, single erythrocytes (in the field of vision), and an increase in the excretion of 17-oxycorticosteroids. Eosinopenia, an increase in excretion of products of hormone decomposition, indicated the development of a stress reaction in cosmonauts. Since some of the indications found on the flight were also found after training in the train-

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ing ship, there is reason to attribute them to limitation of motor activity under conditions of weightlessness. The functional shifts found after flight are indications of a general fatigue, a moderate stress reaction, and a certain amount of detraining. In general, the changes observed in the cosmonauts were of one type. The differences found between the cosmonauts can be attributed to individual differences. [W.A. No. 22; ATD Report 66-116]

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1. KHODUKIN, N. I., KHOZINSKIY, V. I., PINOGENOVA, YE. V., KAMENSHEYN, I. S.

2. SSSR (600)

4. Uzbekistan-Hemorrhagic Fever

7. Examination of virus in hemorrhagic fever in Uzbekistan.
Vop. kraev. pat. No. 2, 1952

9. Monthly List of Russian Accessions, Library of Congress, February 1953, Unclassified.

1. KHODUKIN, N. I. LYSUNKINA, V. A. KAMENSHTEN, I. S.
2. USSR (600)
3. Hemorrhagic Fever - Asia, Central
4. Search for carriers of hemorrhagic fever in Central Asia. Vop. kraev. pat. No. 2 1952.

9. Monthly List of Russian Acquisitions, Library of Congress, February, 1953. Unclassified.

KAMENSHTEYN, S.D.; SMOLYAKOV, A.N.; DRUZHININ, V.F.

Casting threaded clutches in one-piece chills. Lit.proizv. no.11:42
N '61. (MIRA 14:10)
(Die casting) (Clutches (Machinery))

KAMENSHTeyN, S.D.; DVOSKIN, S.M.; SHIYAN, V.G.

Operating large coke-gas cupolas with preheating of the blow
and water cooling. Lit. proizv. no.12:17-18 D '64.
(MIRA 18:3)

KAMENSHTEYN, S.D.; DRUZHININ, V.F.

Manufacture of pouring troughs for centrifugal machines with water-cooled
molds. Lit.proizv. no.4:40-41 Ap '63. (MIRA 16:4)
(Centrifugal casting)